Should we welcome a future of robots, avatars and digital technology for dementia?

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ISH...
...It Depends on What our Needs Are

1. Physical aspects of care
   • Activities of daily living (ADL) – toileting, dressing, feeding, medication

2. Social aspects of care
   • Interaction
   • Isolation
   • Communication

3. Understanding the progression of dementia
   • Deterioration of physical capability
   • Cognitive decline – assessment, planning
The Physical Aspect: Robots

• We want C3PO...
• But the closest we have is Asimo
• Technology isn’t good enough yet
• We have this in reality!
• If it doesn’t work perfectly then it isn’t good enough
The Social Aspect: Avatars

• What is an interface for?
• Familiarity, to talk to a “person” rather than a simulation such as Siri or Google
• A virtual face as a point of contact
• Draws a person’s attention
The Social Aspect: Avatars

• Is this the contentious bit?
• Could an avatar be used as a substitution for a person?
• Is the avatar convenient for the user or the carer?
• Does it really matter if the user is content and feels comforted by the avatar?
Digital Technology

• Everything else!!
  • Safety
  • Convenience
  • Assistance
  • Observation
Digital Technology

• Wearables

• Mobile & Apps

• Embedded
Understanding Peoples’ Needs

• **It is difficult to get reliable information from people:**
  • Self assessment (cognitively able)
  • Caregiver monitoring
  • Incident reporting
  • Clinical assessment

• **We need to re-task technology to suit dementia**
  • Learn about a person using discrete sensors
  • Understand a person without interfering
  • Provide information for carers and people with dementia to make more informed decisions
Recording Data Using the ActivPal™ Sensor

• The device measures how people move
We Can Learn Behaviour

- Accelerometers measure movement in all three dimensions

- Data can be used to learn about the user:
  - Time of getting up
  - Time and duration of activity
  - Time and duration of inactivity
  - Number of steps taken
  - Changes in daily activity

- Yellow – sitting
- Green – standing
- Red – walking
We Can Learn Behaviour

Processed data from an activPAL activity monitor over several hours
Technology to Augment Care

• Technology cannot, should not and will not replace people as carers

• Technology will make information about care:
  • More accurate
  • More up-to-date
  • Available faster

• *Technology will give us more time to spend with people*
Thank you for listening